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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/919,619	08/01/2001	Christian Criegee	P 281519 / 000319 OC	2502
909	7590	09/22/2004	EXAMINER	
PILLSBURY WINTHROP, LLP			GRAY, JILL M	
P.O. BOX 10500				
MCLEAN, VA 22102			ART UNIT	PAPER NUMBER
			1774	
DATE MAILED: 09/22/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/919,619

Applicant(s)

CRIEGEE ET AL.

Examiner

Jill M. Gray

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 19 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-9,11 and 13-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-9,11 and 13-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

The status identifier for claim 1 is incorrect and should be "currently amended".

The rejection of claims 1-4, 6-9, 11 and 13-17 under 35 U.S.C. 103(a) as being unpatentable over Haller et al, 1,886,480 in view of "Flame Retardant Cellulose", Sello, et al is withdrawn upon further consideration.

The rejection of claims 1-4, 6-9, 11 and 13-17 under 35 U.S.C. 103(a) as being unpatentable over Scheibli et al, 6,036,731 in view of "Flame Retardant Cellulose", Sello et al, is withdrawn upon further consideration.

### ***Claim Objections***

Claim 11 is objected to because of the following informalities: the language of "a fleeces" should be "a fleece". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2, 4 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

More specifically, in claim 2, the language of "a salt, especially a halogenide of 2-(p-trimethylammonium-benzene-amino)-4,6-dichlorotriazine" is indefinite because it is unclear whether the limitation following the term "especially" is a part of the claim or not.

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Accordingly, the metes and bounds for which patent protection is being sought are not clear.

In claim 4, the language of "an amount corresponding to 20 to 80% by wt." is indefinite because it embraces amounts that can be similar or parallel to the range 20-80% rendering it difficult to determine the metes and bounds for which patent protection is being sought. The suggested language is "an amount of 20-80% by wt."

Claim 8 is indefinite because the "phosphates" of line 3 necessarily include all phosphates, including the hydrogen phosphate of line 4. Thus, the metes and bounds for which patent protection is being sought are not clear.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 6, 9, 11, 13, and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scheibli et al, 6,036,731 (Scheibli) taken alone or in view of Boyer 4,104,250.

Scheibli teaches cellulose fibers having amino-s-triazine compounds bound thereto, said compounds being of the type contemplated by applicants in claims 1, 2 and 9. See columns 4, 5, 7 and 8. The cellulose is cotton or viscose fiber and is in the form of yarns or fabric as required by claims 3 and 11. See column 13, lines 3-14. In addition, Scheibli teaches a method comprising treating the cellulose fibers under

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alkaline conditions and treating with a cyanuric chloride derivative. See column 15, lines 14-30. The compound is used in amounts within applicants' ranges as set forth in claims 4, 6, and 18. See column 14, lines 62-65 and column 15, lines 1-4. As to claims 13 and 19, it is the examiner's position that since Scheibli teaches that his compound is added on the cellulose fibers in an amount within applicants' range, properties such as the nitrogen content of the finished cellulose fibers would be the same as well, and therefore within the range set forth by applicants, in the absence of clear factual evidence to the contrary. Regarding claims 16 and 17, Scheibli teaches cellulosic fibers treated with a cyanuric chloride compound of the same type set forth by applicants. Accordingly, it is the examiner's position that the same or similar compounds necessarily have the same or similar properties. Thus the examiner has reason to believe that the cellulose fibers of Scheibli have an LOI value within applicants' claimed range. Scheibli is silent as to his cellulose fibers being flameproof. It is the position of the examiner that the compounds taught by Scheibli in formulas 1a, 2, 2' and 6 are the same as or substantially similar to the compounds of applicants' claims 1-2 and 9. The same compounds necessarily have the same properties. Therefore, the examiner has reason to believe that the composition of Scheibli has properties that are the same as or similar to that contemplated by applicants and thereby imparts a flameproofing finish to the cellulose fibers. In the alternative, Boyer teaches flame retardant polymer compositions containing triazines that impart a high degree of flame retardance to the polymers. The structural formula taught by Boyer is the same as formula 1a of Scheibli wherein A and B can be chloride and X can be NH. See column 1, line 56 through

column 2 and line 15. Accordingly, it is the examiner's position that the triazine compound of Scheibli is substantially similar to the flame retardant compounds of Boyer such that one of ordinary skill in the art at the time the invention was made would have reasonably presumed that the properties in the compound of Scheibli are the same as well. Therefore, in the absence of clear factual evidence to the contrary, it is the examiner's position that the compounds of Scheibli do in fact impart flame retardant (or flameproof) properties to his cellulosic articles.

Claims 7, 8, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scheibli et al, 6,036,731 (Scheibli) taken alone or in view of Boyer 4,104,250, each as applied above to claims 1-4, 6, 9, 11, 13, and 16-19, further in view of Buehler et al, 3,776,767 (Buehler).

Scheibli is as set forth above but does not teach the addition of a phosphorus-containing compound. Buehler teaches condensation products for finishing cellulose textile materials comprising a heterocyclic compound reacted with an amine and thiourea compound. The heterocyclic compound can be a 1,3,5-triazine compound such as cyanuric chloride. See column 1, lines 32-47. In addition, Buehler teaches that depending upon the purpose of the finish the finishes may contain further ingredients such as phosphorus containing flameproofing agents. See column 3, lines 60-64. It would have been obvious to the skilled artisan at the time the invention was made, to modify the composition of Scheibli by adding a phosphorus containing compound as taught by Buehler, commensurate with the desired properties of the end use purpose, (as taught by Buehler,) and with the reasonable expectation of obtaining a finishing

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composition that imparts and/or enhances flameproofing properties in the end cellulose fiber product.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-4, 6-9, 11, and 13-17 have been considered but are moot in view of the new ground(s) of rejection.

Applicants have argued that triazine derivatives have various different uses in a wide range of commercial products, per Hawley's Condensed Chemical Dictionary and there are so many different substituents that may be added to the triazine ring that impact different features to the final compound that it is virtually impossible to predict the properties of any one triazine derivative based upon the triazine ring itself.

Therefore, it cannot be asserted that a skilled artisan would be able to predict with any certainty the applicability of two compounds based solely on the common triazine ring. Applicants further argue that the unpredictability of the properties of similar compounds is a factor determinative in whether a skilled artisan would have been motivated to combine references and if the technology is unpredictable, it is less likely that structurally similar species will render a claimed species obvious because it may not be reasonable to infer that they would share similar properties. The presumption of obviousness based on a reference disclosing structurally similar compounds may be overcome where there is evidence showing there is no reasonable expectation of similar properties in structurally similar compounds.

Agreeably triazine derivatives have various different uses in a wide range of commercial products and the addition of different substituents to the triazine ring will

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impart features to the final compound. However, the cyanuric chloride derivative of Formulas I and II of applicants' claims 1, 2 and 9, is substantially the same as the triazine compounds taught by Scheibli in Formulas 2 and 2' (column 4, lines 13 through column 5, and line 16) and the compounds of Formulas 1a and 6 (column 8, lines 1-41) wherein the substitutions for T<sub>1</sub> and V<sub>1</sub> (Formula 2), T<sub>2</sub>, T<sub>3</sub>, and B (Formula 2'), Q, V<sub>3</sub>, W<sub>3</sub>, X<sub>1</sub> (Formula 1a) and X<sub>4</sub> and R<sub>5</sub> of Formula 6 are the same substituents contemplated by applicants as suitable for R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, and R<sup>4</sup>. Accordingly, in this instance the prior art seeks to add the same substituents to its triazine compound as does applicants. Clearly the addition of the same substituents onto the same triazine ring results not only in a common triazine ring, but the same chemical backbone structure and in this case, necessarily imparts the same or similar features to the final compound. As a result, the cyanuric chloride of applicants' present claims 1-4, 6, 9, 11, 13, and 16-19 is the same as or similar to the compounds taught by Scheibli.

"Compounds having the same radicals in physically different positions in the same nucleus are generally of sufficiently close structural similarity that there is a presumed expectation that such compounds possess similar properties. *In re Wilder*, 563, F.2d 457, 195 USPQ 426 (CCPA 1977). While Scheibli is silent as to the properties of flame retardancy, the examiner has reason to believe that the compounds of Scheibli would impart the same or similar properties to his cellulosic materials. A claimed compound may be obvious because it was structurally similar to a prior art compound even though a particular benefit of the claimed compound asserted by applicant is not expressly disclosed in the prior art. If the prior art compound does in fact possess a particular



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benefit, even though the benefit is not recognized in the prior art, applicants' recognition of the benefit is not in itself sufficient to distinguish the claimed compound from the prior art.

Applicants have provided no evidence on this record that there is no reasonable expectation of similar properties in the structurally similar compounds of claims 1 and 9 and Scheibli, nor is there evidence clearly establishing a substantial degree of unpredictability in this art area as it relates to the compounds of claims 1 and 9 and prior art Scheibli, and, there is no evidence on this record that the claimed compounds of claims 1 and 9 possess unexpected advantageous or superior properties.

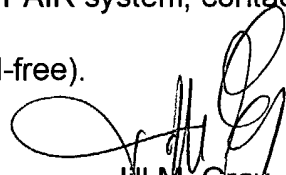
No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jill M. Gray whose telephone number is 571-272-1524. The examiner can normally be reached on M-F 10:30-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jill M. Gray  
Examiner  
Art Unit 1774

jmg